

Remarks/Arguments

Applicants thank Examiner Lewis for her patience and her careful examination of this application and clear explanation of the claim rejections in the Office action. In response, applicants amend claim 25 to overcome the rejection and insert new claims 28-37.

As amended, claim 25 describes a device that includes a single-layered insulating interposer film that has a bottom surface with exit ports formed by vias that extend through the interposer. The bottom surface further has the limitation that the area immediately adjacent the exit ports being free of a conductive pattern and contact pad.

The limitation that vias forming exit ports on the bottom surface and the area near the exit ports being free of a conductive pattern and contact pad is supported in the original drawing figures 1, 3B, 4B, 5B, and 6B and this limitation distinguishes claim 25 from the prior art cited in the Office action of March 14, 2005.

The Miles patent discloses a leadless integrated circuit package that has a substrate (16) with a circuit pattern (20) on a first side and an array of solder pads (23) on an opposite side of the substrate.¹ The DeFelice patent discloses an interconnection substrate 37 (Fig. 6) that has a metallization pattern including contact regions 38.² The Boitel patent discloses a method to interconnect electric components by welding elements that includes the step of interconnecting a component 20 provided with pads 22 and a component 24 provided with pads 26 so as to obtain electric links respectively between the pads 22 and 26.³ One commonality among the cited references is that the substrate (or its equivalent) includes contact pads to link the chip to the substrate, contrary to the limitation of claim 25.

Because the limitation in claim 25 is not disclosed in any of the cited references, claim 25 is neither anticipated by nor rendered obvious in view of the references in the Office action. Therefore, claim 25 stands patentable. Claims 26 and 27 depend from claim 25 and stand patentable by virtue of their dependency.

¹ See US 5,535,101, Substrate.

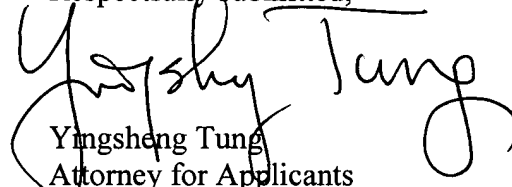
² See US 6,190,940, col. 6, ll. 24-28.

³ See US 5,131,584, col. 6, ll. 39-43.

The newly inserted claims 28-37 are also fully supported and distinguish over the cited references. Claim 28 describes a substrate and it also has the limitation of having exit ports on a bottom surface on which the area immediately adjacent the exit ports being free of a conductive pattern and contact pad. Claim 32 describes a BGA substrate and it also has the limitation of having exit ports on a bottom surface on which the area immediately adjacent the exit ports being free of a conductive pattern and contact pad. Claim 35 describes a BGA substrate that has a bottom surface that is insulating. Claims 29-31 depend from claim 28 with additional limitations; claims 33 and 34 depend from claim 32 with additional limitations; and claims 36 and 37 depend from claim 35 with additional limitations.

Applicants respectfully submit that the amended application is in allowable form and claims 25-37 distinguish over the references and stand patentable. Applicants respectfully request further examination of this application and timely allowance of the pending claims.

Respectfully submitted,


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